

W2  
A2  
S9L

71B

0.7.

ARMY  
FORCES  
JAN 7 1954  
MEDICAL  
LIBRARY

Letter No. 12  
July 21, 1943

Dear Doctor:

This letter is sent to you by the Surgeon Generals of the Army, Navy, and the U.S. Public Health Service, with the co-operation of the Committee on Information of the Division of Medical Sciences of the National Research Council.

\*\*\*\*\*

23,

Siede and Luz discuss in the Klin. Woch., for January, 1943 the etiology of epidemic hepatitis. They say, "It has been possible with the aid of the chorio-allantoic method to cultivate from duodenal fluid a filterable, specific agent which destroys chicken embryos on the average after five days within eight passages. Its behaviour marks it as belonging to the group of filterable viruses. The virus has been successfully demonstrated with some degree of regularity in hepatitis epidemica so that it is probably the cause of this disease. (Bulletin of Hygiene 18:361, May, 1943)

\*\*\*\*\*

French investigators, G. Senevet, P. Moutier, H. Gros, L. Alcaay, and R. Bourgsrel, discuss epidemic jaundice in Tunisia in an article published in Arch. Inst. Pasteur d'Algérie. The epidemic in question occurred in three infantry battalions and one sergeants' mess in the winter of 1939-1940. The authors conclude that the infective agent is probably a virus present during the preicteric stage in the saliva, the upper respiratory passages, and in the blood. (Bulletin of Hygiene 18:360-361, May, 1943)

\*\*\*\*\*

Several articles on Malta fever in S.W. Africa appear in the Deut. Trop. Ztschr., for April 15, 1941. They indicate that human cases of brucella abortus infection occurred in Rhodesia, derived from cattle, and that in the Orange Free State and the Union, brucella melitensis is spread from goats to man and also to sheep and cattle. It is estimated that from one-half to one-third of the sheep and goats in the kraals are infected. Hands should be cleansed after dealing with infected animals and with those which are slaughtered. All milk from cows and goats should be heated. (Bulletin of Hygiene 18:380-381, May, 1943)

\*\*\*\*\*

1

Brucellosis was reported as frequent in Chile and in Uruguay. In Uruguay, involvement of the male genitalia was found among 51 cases of brucellosis. The complication was epididymitis. (P. Purriel, R. Rizzo and J. Espasandín: Localización genital de la Brucelosis en el hombre. Arch. Uruguayana de Med. Cirug. y Especialidades. Aug. 1942, 21:128-152)



V. San Martin Soto reports that the milk out of 400 cows in 60 cowsheds in Santiago, Chile, yielded positive agglutination of Br. abortus. (Rev. Chilena de Hig. y Med. Preventiva. 5:25-38, June, 1942)

\*\*\*\*\*

In article in the American Journal of Public Health for July, 1943, Carl F. Jordan, epidemiologist in the Iowa State Department of Health, states that during 1930-1941 there were reported in the 48 states of this country 29,594 cases of brucellosis, an average annual rate of 1.87 per 100,000 population.

The isolation of brucella from the blood stream is first among laboratory aids for confirmation of diagnosis. The presence of agglutination in diagnostic culture is second only to the blood culture as an aid in clinical diagnosis. A positive intradermal test with brucella antigen signifies exposure to brucella infection in the recent or remote past. Use of none but carefully pasteurized dairy products and enforcement of the Standard Milk Ordinance afford the best assurance against milk-borne disease. (American Journal of Public Health, 33:773-779, July 1943)

\*\*\*\*\*

The Journal of Immunology for June, 1943, provides an article, page 439, by S. Bornstein on "The State of the Salmonella Problem." The Salmonella comprises gram-negative and non-spore-forming bacilli which are pathogenic for man, animals, or both, and which are most frequently associated with cases of food poisoning. There are many varieties of Salmonella which can be identified by immunologic studies. Human Salmonella infections produce three types of clinical pictures for which the name Salmonella fever, Salmonella septicemia and Salmonella gastroenteritis are proposed. A pulmonary type has also been suggested. Salmonella fever is milder and less typical than typhoid fever, with the exception of some cases that are due to Salmonella paratyphi. Fever and malaise are the dominating symptoms and usually last from one to three weeks. Leukopenia is present in some cases and disappearance of eosinophiles is common. Abdominal pain may produce a pseudo-surgical syndrome. Not infrequently appendectomies are performed on such patients, as is well known in unrecognized ~~in~~ Salmonella paratyphi infections. As in typhoid fever, there may be bronchitis and bronchopneumonia, and Salmonella organisms are occasionally found in the sputum. Blood cultures are often positive early in the disease. Bacteria may be found in the urine. The Widal reaction usually becomes positive.

In Salmonella septicemia, the distribution and pathologic effects are not unlike those of pyogenic cocci. A careful



study of the history sometimes reveals an attack of diarrhea preceding the onset by a few weeks. The blood invasion is evident from the high remittant fever and positive blood cultures. In the majority of these cases the portal of entry is the intestinal tract.

*Salmonella gastroenteritis* in the adult is rarely fatal, except in persons weakened by other diseases or by old age. The period of incubation is not as short as in food poisoning due to chemical poisons or to staphylococcal toxins. There is an interval of eight hours and sometimes more than one day between consumption of the contaminated food and the first symptoms. If the infection is due to contact or means other than contaminated food, the time of incubation is difficult to determine. Vomiting is usually the first symptom, but may be absent. In adults, the diarrhea is less severe than in dysentery; the stools rarely are bloody and there is no tenesmus. With proper general care, the disease rarely lasts longer than one week. Fever usually subsides after three or four days.

In *Salmonella* infections, sulfaguanidine is considered useful, particularly in infections with *Salmonella cholerae suis*, and possibly *Salmonella paratyphi A*. Comparatively strongest action was demonstrated with sulfathiazole and sulfadiazine. A few encouraging results in septicemias are on record. In typhoid fever, the results of sulfanilamide treatment are disappointing.

Food may become contaminated through direct contact with infected meat and meat products or eggs. Smoked fish has been found responsible for several outbreaks. Fish have been shown to be contaminated by sewage. There is some evidence that rat excreta have contaminated food. The hands of temporary or chronic human carriers are an important source from which food material may become contaminated. This is particularly important in typhoid and paratyphoid epidemics. Most *Salmonella* infections lead to temporary carrier states for periods almost always less than one year. The carrier state terminates spontaneously. Infection of the gallbladder does occur, with long-continued excretion of the organisms. Food that has not been prepared and kept with the necessary cleanliness may become the source of *Salmonella* infection. *Salmonella* has been found in Chinese egg preparations. Baking and cooking destroy organisms but do not protect against later contamination or additions of infected material. Artificial cream filling of pastries is known to be dangerous because bacteria may multiply in them. Pure fruit fillings of pies are safer because *Salmonella* do not survive in them. *Salmonella* is resistant to low temperature, and outbreaks of infection have repeatedly been traced to ice cream.

For the prevention of *Salmonella* infections eggs, other than those from hens from well controlled flocks, should not be consumed in a raw condition. Cleanliness in food preparation and



storage, especially in bakeries, ice cream manufacture, fish-smokeries, etc., rat-extermination and screening against flies are important.

\*\*\*\*\*

The toxicity of gasoline vapor is the subject of study by Philip Drinker, C.P. Yaglou and Madeleine Field Warren, reported in the Journal of Industrial Hygiene and Toxicology (25:225-232, June 1943). They conclude that gasoline can be detected by smell in lower concentrations than the Bureau of Mines have reported. They also say that in extremely low concentration gasoline and a distillate from gasoline will invariably cause slight degrees of gastro-intestinal disturbance in one or two persons out of ten. The average person, smelling gasoline, cannot tell whether the concentration is 0.05 per cent or 0.2 per cent. This fact makes it possible to consider that serious complaints of gasoline odor may be referable to a low concentration of gasoline in the air.

\*\*\*\*\*

F.C. Eve reports sudden death from impaction of the epiglottis in the London Lancet, June 26, 1943 (page 799). He states, "Exposure to blast often causes deaths which have not been satisfactorily explained: there may be no sign of a lethal injury, and persons exposed to the same blast may be unharmed. It is suggested that in such cases death may be due to impaction of the epiglottis while the lungs are empty. The epiglottis cannot be disimpacted by expiration, for the chest does not contain enough air.... If the above hypothesis is correct, death can be averted if the epiglottis is promptly replaced or if the vacuum holding it down is abolished by plunging a hollow needle into the trachea. Artificial respiration is futile till this is somehow effected."

\*\*\*\*\*

In

A note especially prepared for the Bulletin of War Medicine, June 1943, page 535, by Surgeon Rear-Admiral G. Gordon-Taylor reports on the technic of wound excision. It is a concise, practical statement which should be read in toto by every military surgeon. The concluding paragraphs read:

"Experiment and clinical experience have indicated that local application of sulfonamide drug to the recesses of the wound is useful in the prophylaxis of infection. Sulphonamide powders intended for local application in this way must be sterilized, and be applied from sterile containers. The powder should be sprinkled or insufflated over the whole exposed surface after excision has been performed, except that it must not be applied in the immediate neighborhood of important nerves. By gently



massaging the powder into the tissues, any caking will be prevented, and its dissemination facilitated. On no account should the wound be "packed" with the drug, otherwise an undissolved mass will remain as a foreign body. It will seldom be wise to apply more than 15 gm. of sulphanilamide or 10 gm. of sulphathiazole, and the quantities may be proportionately reduced when a sulphonamide has been given by the mouth. Sulphapyridine and sulphadiazine are less suitable for local application.

"In no circumstances should the muscles, fasciae or other deep layers of the wound be sutured. The advisability of primary suture of the skin will depend upon the experience of the surgeon, the interval between the reception of the wound and the time of operation, the site and anatomical characters of the wound, and finally upon the prospect of early transportation. Where the slightest doubt is felt regarding the safety of primary suture, the skin must be left open. Primary suture of battle wounds is generally undesirable.

"It is most important that the (vaseline) gauze placed in the depths of the unsutured wound should not be tightly packed: the blood-supply to the structures bounding the wound may be jeopardised by neglect of this instruction. On no account suture the edges of the skin over buried gauze.

"The results of closure of a wound within a few days after excision so closely approximate to those of 'primary suture,' that this method ('delayed primary suture') is one for consideration, when there is any question as to the advisability of 'primary suture.'

"The presence of a sulphonamide in a wound tends to increase serous discharge and capillary oozing. These should not cause difficulty unless tight suturing has been performed or drainage is otherwise deficient. If suturing is done, sutures should not be drawn too tight and an excess of local sulphonamide must be avoided; in open wounds with adequate drainage larger quantities may be permissible. Plaster-of-Paris may be applied when desired, and the presence of sulphonamide is no contra-indication."

\*\*\*\*\*

The Bulletin of War Medicine for June, 1943, provides in abstract form (page 548) the article prepared by the British War Office, and published in January, 1943, on surgery of the thorax, and on abdominal wounds (page 551) published in February, 1943. These give in concise form the technic developed from British experience in this war.

\*\*\*\*\*